



Laboratory Support Program

Directory of Program Elements

L-1	Laboratory Accreditation and Capacity	120
L-2	Quality Assurance/Quality Control	120

Program Definition

Efforts to restore and protect Puget Sound depend on accurate and timely laboratory analysis of data to provide information on the presence, concentrations and effect of contaminants in Puget Sound. The laboratory accreditation and capacity element of the Laboratory Support Program helps to ensure the availability of quality-assured analysis methods.

Standard methods and quality assurance and quality control (QA/QC) procedures are necessary to ensure the usefulness of laboratory analyses. Laboratory data must be generated by accepted methods and must be accompanied by supporting documentation to assure the data user of the quality of the analysis. The Laboratory Support Program specifies a QA/QC approach based on the Puget Sound Protocols and Guidelines.

Institutional Framework

The Department of Ecology implements the laboratory accreditation and capacity element of the Laboratory Support Program. Through this work,

Ecology ensures that laboratories meet the needs of state agencies and local and tribal governments.

A number of federal and state laws and regulations (e.g., the federal Clean Water Act and the state's sediment management standards) require the laboratory analysis of environmental samples—often through the use of specific laboratory and field procedures. The Puget Sound Protocols and Guidelines builds upon the methods developed for regulatory programs to describe appropriate field and laboratory approaches for collecting and analyzing many types of environmental samples within Puget Sound.

The Laboratory Support Program provides a foundation for the collection of usable, environmental information through other management plan programs, including Monitoring, Research, Shellfish Protection and Contaminated Sediments. Experiences in implementing other management plan programs have identified field and laboratory issues that need to be addressed when updating the Puget Sound Protocols and Guidelines.

What does “shall” mean?

The Action Team has determined that the actions in this plan are needed to protect and restore Puget Sound. Consistent with the importance of these actions, this plan says that appropriate implementers “shall” perform the actions. However, implementation of many of these actions is a long-term process. The Action Team's work plans will identify the actions that need to be taken each biennium to implement this management plan. Implementation of actions in the work plans is subject to the availability of funds and public input into the decision-making processes of implementing entities. When an action is included in a biennial work plan, the Action Team expects that it will be implemented in accordance with the relevant provisions of the Puget Sound management plan, in accordance with Chapter 90.71 RCW.

Program Goal

To assure the quality and timeliness of physical, chemical and biological laboratory tests necessary to support the protection and enhancement of the waters of Puget Sound.

Program Strategy

The strategy for achieving this goal is to:

- a. Establish a laboratory accreditation program administered by Ecology that will review the capability of environmental laboratories to generate data of known quality;
- b. Assure that adequate laboratory support exists for agency and other sampling programs;
- c. Develop and update protocols and guidelines to standardize data collection, analysis and transfer within Puget Sound, and to encourage their use for all data collected in Puget Sound; and
- d. Develop and encourage the use of uniform quality assurance guidelines for data collected under all Puget Sound programs.

L-1. Laboratory Accreditation and Capacity

L-1.1. Laboratory Accreditation

The Department of Ecology shall continue to implement a laboratory accreditation program. As part of regulatory environmental programs, Ecology shall adopt rules requiring that laboratory analysis be conducted by laboratories that are accredited to use approved laboratory protocols. As part of the laboratory accreditation program, Ecology shall adopt rules requiring accredited laboratories to comply with specified quality assurance and quality control procedures. Ecology shall inform all certified labs that the use of adopted Puget Sound Protocols and Guidelines (see L-2) is required for many programs in the *Puget Sound Management Plan*. Ecology shall implement the Puget Sound Protocols and Guidelines in the Ecology laboratory at Manchester.

Target Dates for L-1.1: Ecology shall continue its ongoing efforts to carry out the lab accreditation program.

L-1.2. Laboratory Capacity

Ecology shall prepare a biennial laboratory plan that addresses the short- and long-term needs, capacity, and data management of Ecology and other state agencies and of local and tribal governments, and make recommendations regarding means to rectify shortfalls in the ability of the labs to support agency programs. The plan shall: identify target turnaround times and specify acceptable holding times for analyses; assess available means to assure that all samples are analyzed within those times while meeting the highest possible quality standards; describe sample tracking and data management systems; include consideration of the need for additional staff, including night shifts, to fully utilize existing agency lab equipment and facilities; and fully explore the use of lab capacity possessed by other agencies and the use of contract labs before recommending establishment of new lab facilities.

Ecology shall biennially submit to the Puget Sound Council and Action Team an updated laboratory plan that includes:

- a. A revised estimate of the number and types of analyses needed to support Ecology programs;
- b. A review of the services provided by Ecology laboratories, including holding and sample turnaround times, data quality and data management, during the preceding two years; and
- c. An updated analysis of the additional laboratory capacity needed to carry out these analyses within the target turnaround times that Ecology shall specify.

In preparing the laboratory plan, Ecology shall consult with other state agencies, including the departments of Health, Agriculture, Fish and Wildlife and Labor and Industries, and tribal and local governments to incorporate their laboratory needs and capabilities related to the *Puget Sound Management Plan* in the reports.

Target Dates for L-1.2: Ecology shall submit biennial updates to the laboratory plan.

L-2. Quality Assurance/Quality Control

L-2.1. Puget Sound Protocols and Guidelines

The Action Team shall develop and implement a process for the review and adoption of Puget Sound

Protocols and Guidelines. The process shall provide for development of new protocols and guidelines, for review and revision of existing protocols and guidelines, for assignments to agencies with expertise, and for formal adoption of the protocols and guidelines.

The development and review of the protocols and guidelines shall be assigned to agencies and organizations with technical expertise in fields relevant to the individual protocols and guidelines. The technical experts shall prepare recommendations that shall undergo extensive peer review. Experts from federal and state agencies, local and tribal governments, the private sector, the academic community and the public shall review protocol development and revisions. In addition, the review group shall outline Quality Assurance/Quality Control (QA/QC) needs for the use of each updated protocol. The Action Team support staff shall recommend the Puget Sound Protocols and Guidelines to the Action Team for adoption.

New protocols and guidelines shall be developed and existing protocols and guidelines revised as needed and reviewed biennially.

The Puget Sound Protocols and Guidelines include "Recommended Quality Assurance and Quality Control Guidelines for the Collection of Environmental Data in Puget Sound." This guideline addresses quality assurance and quality control issues related to the collection of environmental data in support of Puget Sound monitoring and research and other programs in the *Puget Sound Management Plan*. The guideline shall be used to ensure that uniform quality assurance practices are incorporated into all activities to develop data on environmental conditions in Puget Sound.

L-2.2. Quality Management Plans

Action Team agencies should develop and implement plans, such as Ecology's Quality Management Plan, that describe requirements for QA project plans; training in and technical assistance with QA/QC principles and practices; and QA audits of selected projects. QA project plans shall require the use of Puget Sound Protocols and Guidelines where appropriate.

Action Team agencies' QA/QC programs shall include the following:

- a. Establishment of guidelines for the preparation of quality assurance project plans (QAPP), including establishment of project-

specific objectives and development of sampling and analysis plans commensurate with objectives for major surveys.

- b. Audits of data quality (based on selected QAPPs), including checks that sampling and analytical procedures have been correctly performed, and reviews of data to verify that they meet user requirements including data-quality objectives.
- c. Training for staff, including training needed to determine the appropriate number and type of samples and analyses for areas of investigation commonly encountered. Training needs will build upon information gained during the planning process and during implementation and oversight of the resulting program.
- d. QA/QC assistance to staff, including technical guidance concerning QA/QC in general.
- e. Other appropriate measures resulting from issues identified during the planning process.

Target Dates for L-2.2: Agencies shall provide biennial reports on the implementation of their quality management plans to the Puget Sound Council and Action Team beginning July 1, 2001.

